

Name \_\_\_\_\_

# Polygons

P 8-2

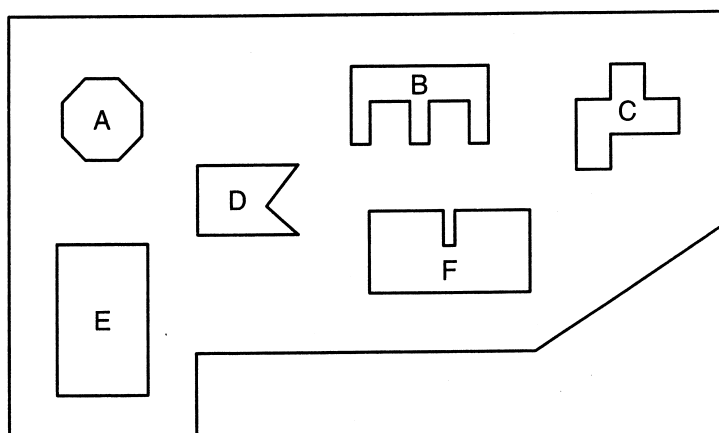
Draw an example of each polygon. How many sides and vertices does each one have?

1. Square

2. Octagon

3. Hexagon

The map shows the shapes of buildings in Polygon Park. Identify the polygons that are lettered.



4. A

5. D

6. C

7. B

8. E

9. F

## Test Prep

10. Which is the point where sides meet in a polygon?

A. Edge

B. Endpoint

C. Side

D. Vertex

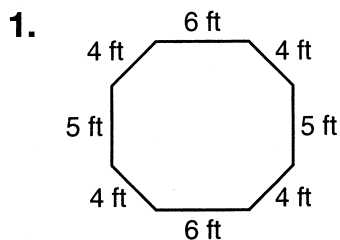
11. **Writing in Math** Describe two polygons by the number of sides and sides each has.

Name \_\_\_\_\_

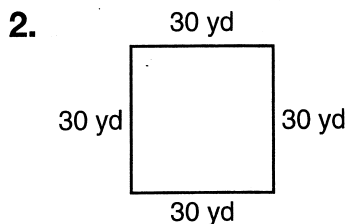
# Perimeter

P 8-10

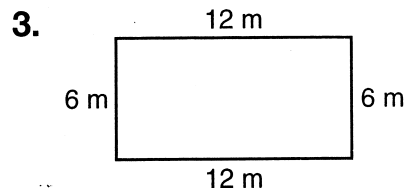
Find the perimeter of each figure.



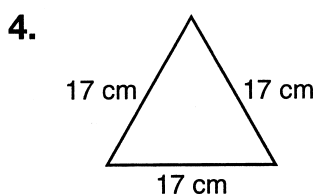
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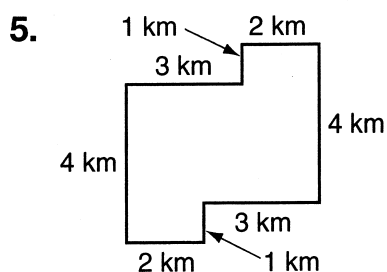
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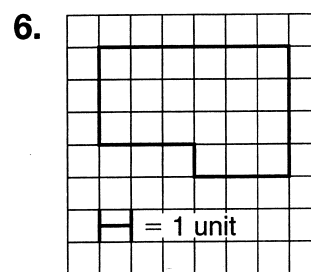
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\_\_\_\_\_



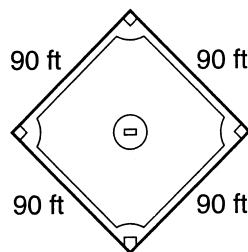
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\_\_\_\_\_

7. What is the perimeter around the bases?

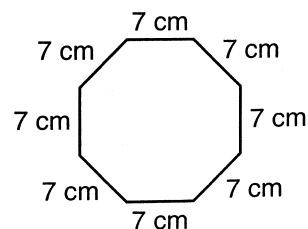
\_\_\_\_\_



## Test Prep

8. Which is the perimeter of this figure?

- A. 77 cm      B. 63 cm  
C. 56 cm      D. 28 cm



9. **Writing in Math** Explain how you can use multiplication to find the perimeter of a square.

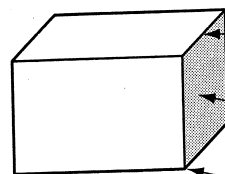
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\_\_\_\_\_

Name \_\_\_\_\_

R 8-1

# Relating Solids and Plane Figures

Solid figures have three dimensions: length, width, and height. Many solids have edges, faces, and vertices.



Rectangular prism

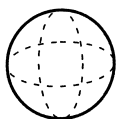
**Edge:** the line segment where 2 faces meet

**Face:** the flat surface of solid figures

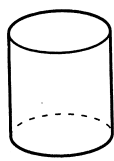
**Vertex:** the corner where 3 or more edges meet

Spheres, cylinders, and cones have curved surfaces.  
Other solids have all flat surfaces.

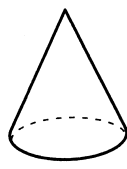
## Curved Surfaces



Sphere

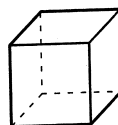


Cylinder

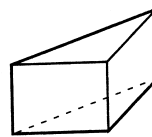


Cone

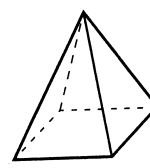
## Flat Surfaces



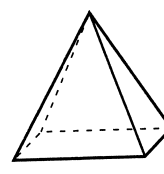
Cube



Triangular prism



Square pyramid



Rectangular pyramid

Complete the table.

Solid Figure	Number of Faces	Number of Edges	Number of Vertices	Shape(s) of Faces
1. Rectangular prism				
2. Cube				
3. Triangular prism				
4. Square pyramid				

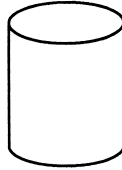
5. **Reasoning** Compare rectangular pyramids and rectangular prisms. How are they alike?
- \_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_

**Answer the questions**

1. What is this figure called?

- a. cone
- b. rectangular prism
- c. cylinder
- d. cube

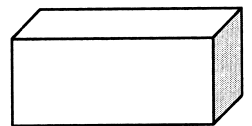


2. What shape are the faces on a cube?

- a. circle
- b. square
- c. hexagon
- d. pentagon

3. What is the total number of faces on this rectangular prism (solid)?

- a. 3
- b. 4
- c. 6
- d. 8



4. How many vertices does a cube have?

- a. 2
- b. 4
- c. 6
- d. 8

5. Which of these figures has no faces?

- a. cube
- b. sphere
- c. cone
- d. pyramid

6. Which of these items is a cylinder?

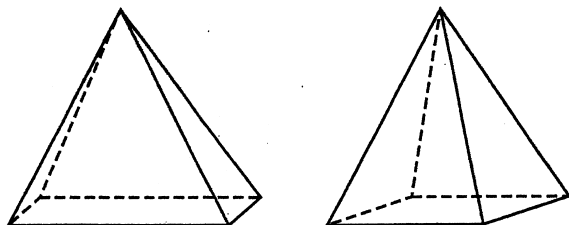
- a. basketball
- b. gift box
- c. can of beans
- d. ice cream cone

Name \_\_\_\_\_

# Relating Solids and Plane Figures

PS 8-1

**Two Pyramids** Look at the drawings of a rectangular pyramid and a square pyramid. Then complete 1–3.



1. What is the least number of edges that must meet for there to be a vertex?  
\_\_\_\_\_
2. How many vertices are at the bases (or bottoms) of each pyramid?  
\_\_\_\_\_
3. How many faces does each pyramid have?  
\_\_\_\_\_

**What Am I?** For 4–6, tell which solid figure is being described.

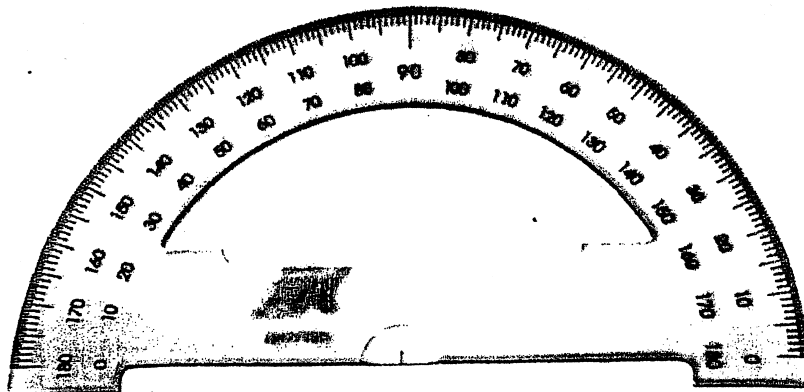
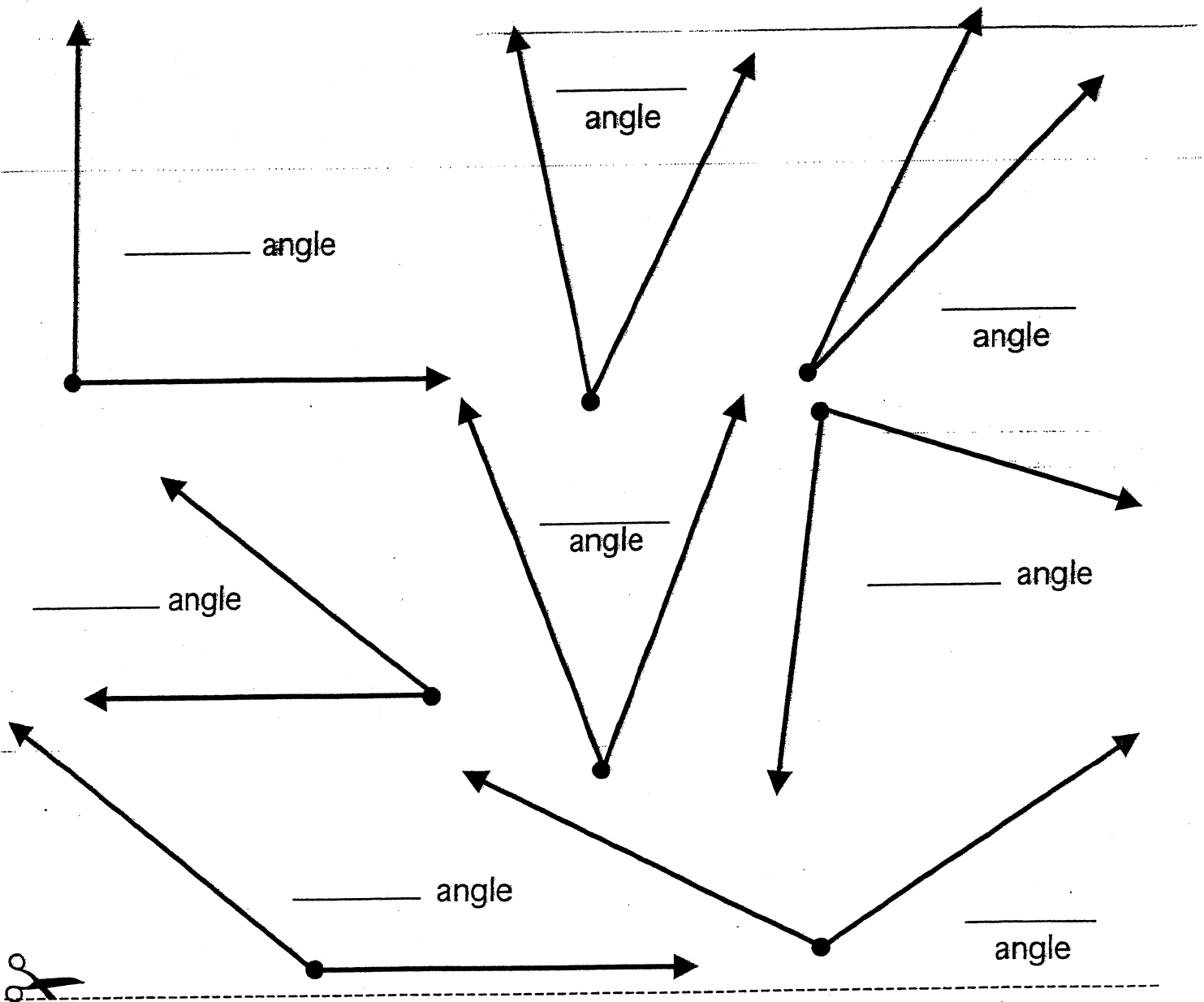
4. I have 6 faces that are all flat. Two of my faces are square and the others are rectangular. I have 8 vertices and 12 edges. What am I? \_\_\_\_\_
5. I have a total of 2 flat surfaces. I have no edges or vertices. Please do not confuse me with my cousin the cone. What am I? \_\_\_\_\_
6. I have no edges, no vertices, and no faces. What am I? \_\_\_\_\_
7. **Writing in Math** What is the main difference between the two pyramids? Explain.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Let's Measure!

Name \_\_\_\_\_

Date \_\_\_\_\_

Carefully cut out the protractor at the bottom of the page and use it to measure these right, acute, and obtuse angles. Write the angle measurements on the lines.

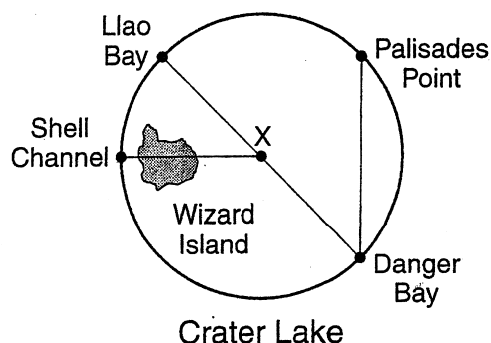


Name \_\_\_\_\_

# Circles

PS 8-5

**Crater Lake** Crater Lake National Park in Oregon is home to the deepest lake in the United States. The drawing shows a simplified, circular version of Crater Lake.



1. Which type of line segment connects Danger Bay and Llao Bay?

\_\_\_\_\_

2. Which type of line segment connects Palisades Point and Danger Bay?

\_\_\_\_\_

3. Which type of line segment connects the center of Crater Lake and Shell Channel?

\_\_\_\_\_

Use what you know about the radius and the diameter of a circle to complete 4–5.

4. The radius of a circle is 16 in. How long is its diameter?

\_\_\_\_\_

5. Suppose circle A has a radius that equals the diameter of circle B. Does the radius of circle B equal half the radius of circle A?

\_\_\_\_\_

6. **Writing in Math** A chord connects any two points on a circle. Explain why every diameter is also a chord but not every chord is a diameter.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

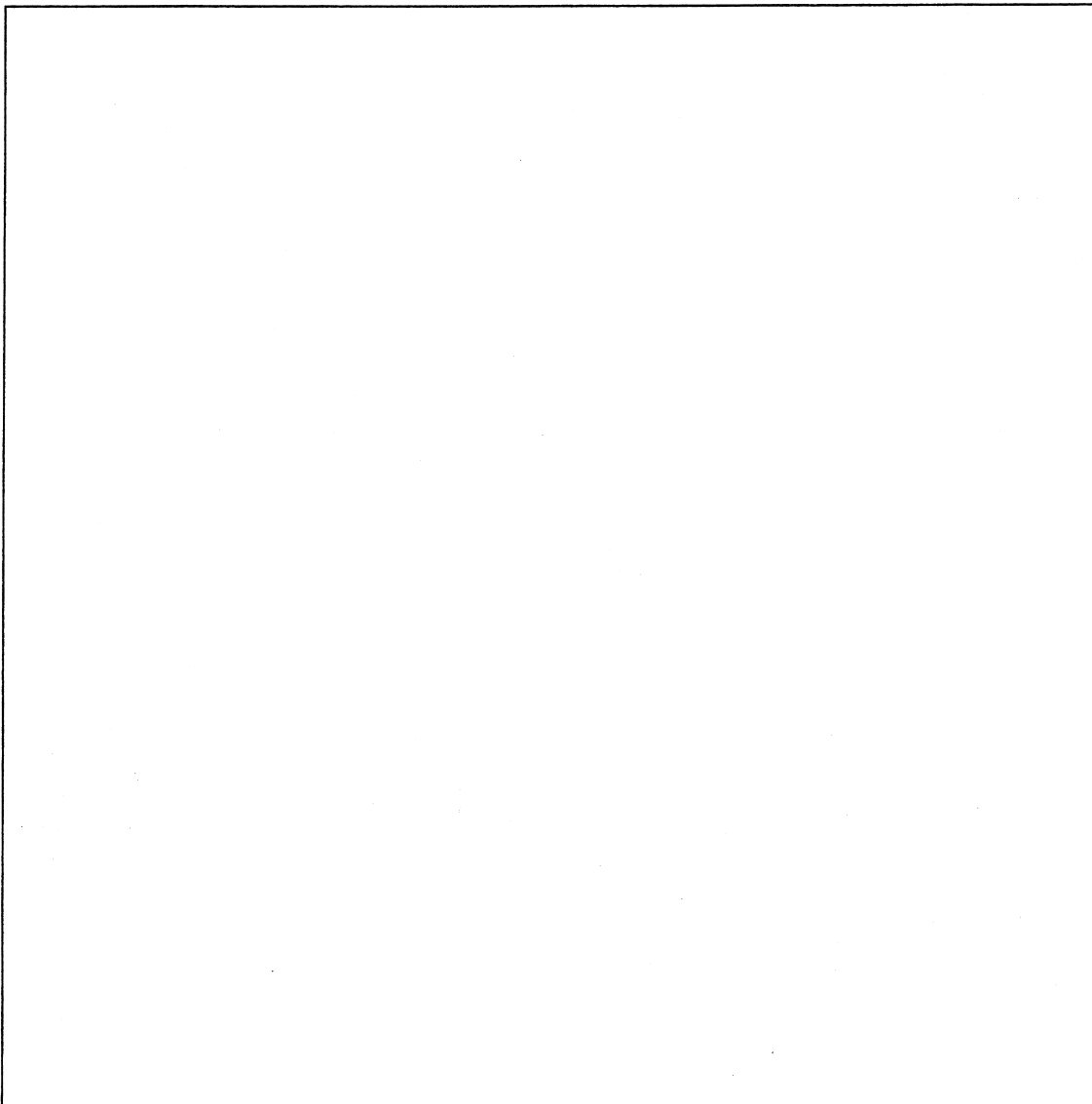
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# Three Dimensional Figures

Name \_\_\_\_\_ Date \_\_\_\_\_

Draw a picture using three-dimensional figures. Put the correct letter on each figure in your pictures.

- A. cone
- B. sphere
- C. cube
- D. rectangular prism (solid)
- E. cylinder
- F. pyramid





Name \_\_\_\_\_

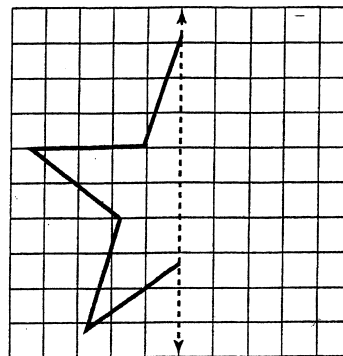
# Symmetry

PS 8-7

1. Draw the right half of the star on the grid paper. Make the star symmetric. Then tell how many lines of symmetry it has.

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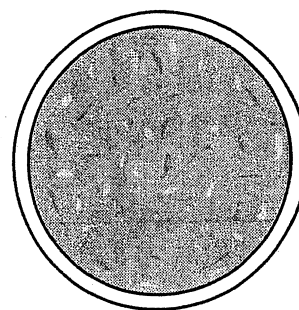
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2. Is the cheese pizza shown symmetric? If it is, how many lines of symmetry does it have?

---

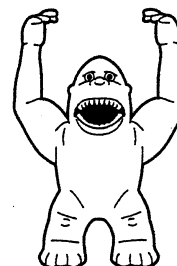
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3. Look at the drawing of the gorilla. Is it symmetric? If it is, how many lines of symmetry does it have?

---

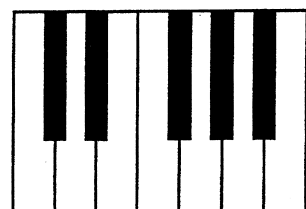
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4. Look at the drawing of part of a piano keyboard. Is it symmetric? If it is, how many lines of symmetry does it have?

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5. **Writing in Math** Is there any other figure besides a circle that has an infinite number of lines of symmetry? Explain.

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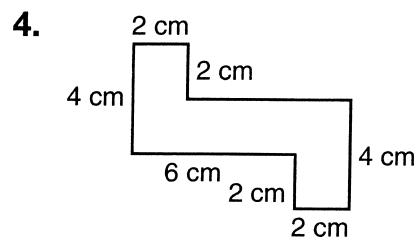
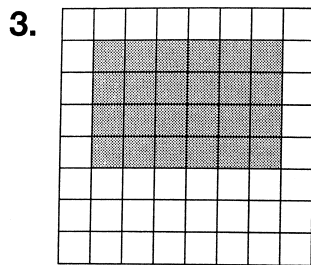
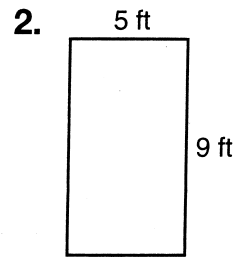
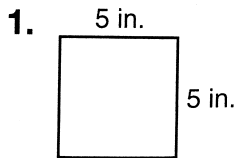
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# Area

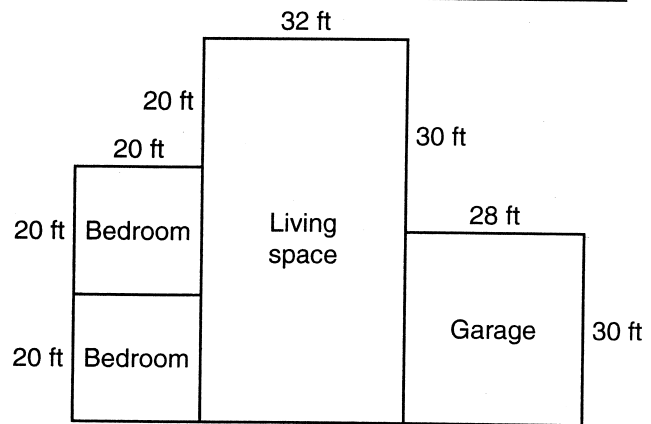
P 8-11

Find the area of each figure.



5. What is the area of both the bedrooms?

6. What is the area of the whole house?



## Test Prep

7. Which is the area of a rectangle with a length of 26 cm and a width of 34 cm?

A. 992 cm      B. 884 cm      C. 720 cm      D. 324 cm

8. **Writing in Math** Explain how you would find the length of one side of a square if the area is 16 square units.

# Fair Enough

**E 8-11**  
**DECISION MAKING**

Carl is scheduling students to work at the school fair. Each student will work a 2 hr shift. The students who have signed up to work are Anna, Byron, Carlos, Donald, Esha, Frank, Glynis, Hannah, and Juan.

In each exercise fill out a schedule for student workers that meets the requirements stated.

1. Anna and Juan cannot work on Wednesday. Donald can work only on Thursday. Carlos can work only the last shift.

	Wednesday	Thursday	Friday
10 A.M.–noon			
noon–2 P.M.			
2 P.M.–4 P.M.			

2. Esha cannot work on Friday. Hannah can work only in the morning. Frank and Glynis are only available on Wednesday and Thursday.

	Wednesday	Thursday	Friday
10 A.M.–noon			
noon–2 P.M.			
2 P.M.–4 P.M.			

3. Carlos can work either Wednesday or Friday. Byron is available only from 10:00 A.M. to noon on Thursday. Juan cannot work the last shift.

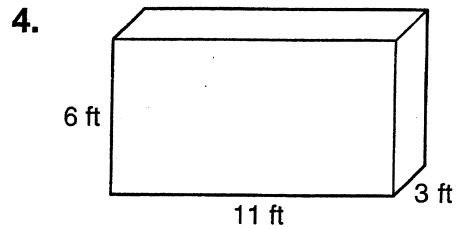
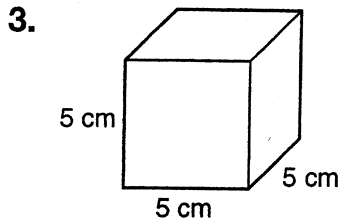
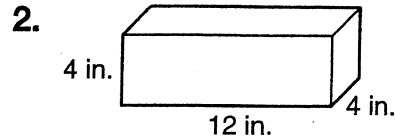
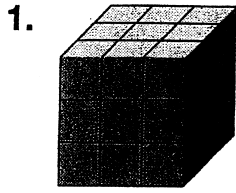
	Wednesday	Thursday	Friday
10 A.M.–noon			
noon–2 P.M.			
2 P.M.–4 P.M.			

Name \_\_\_\_\_

# Volume

P 8-13

Find the volume of each figure.



5. A rectangular prism has a length of 7 cm, a width of 4 cm, and a height of 3 cm. What is the volume of the prism?
- \_\_\_\_\_

6. **Reasoning** The length of an edge of a cube is 5 ft. What is the total volume of two cubes of the same size?
- \_\_\_\_\_

7. If a cube has a volume of 64 cubic units, how many bricks are in each row?
- \_\_\_\_\_

## Test Prep

8. What is the volume of a cube that has an edge of 7 yd?

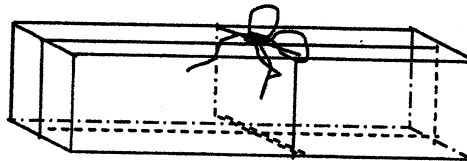
A. 343 cubic yd    B. 98 cubic yd    C. 49 cubic yd    D. 21 cubic yd

9. **Writing in Math** If you know that a rectangular prism has a length of 256 m and a width of 192 m, can you find its volume? Explain your answer.
- \_\_\_\_\_
- \_\_\_\_\_

## Perimeter Matters

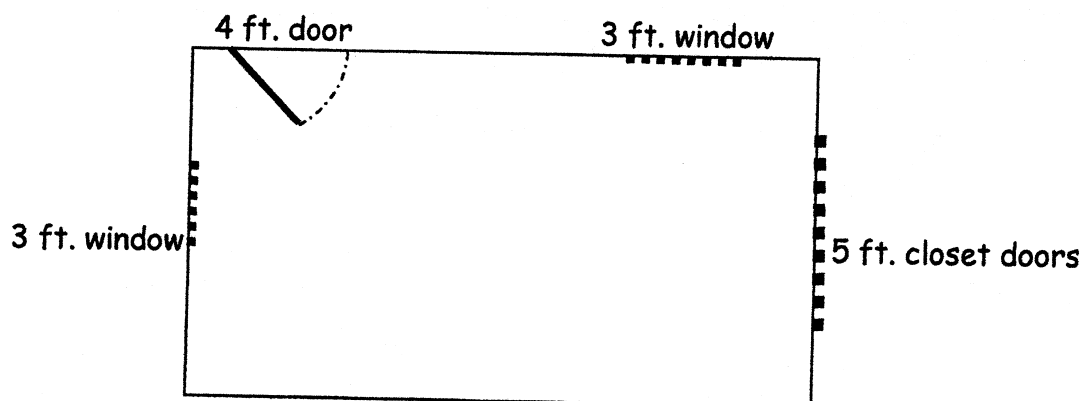
1. Marta wants to tie a ribbon around the sides of a hexagonal box and then tie a bow. Each side of the box is 4 inches long. She needs 14 inches for the bow. Is one yard of ribbon enough? Explain. Then state exactly how long the ribbon must be.

2. Caryn needs to ship a box that is 14" high, 12 inches deep and 24 inches long. After sealing the box, she tied it with twine as shown:



How much twine does she need if the bow uses 12 inches of twine?

2. Shawndolyn is remodeling her daughter's room. She plans to put a border around the room at waist height and another border around the ceiling. The diagram shows the layout of the 12' X 8' room. There will be no gaps in the ceiling border. How many feet of border does Shawndolyn need?

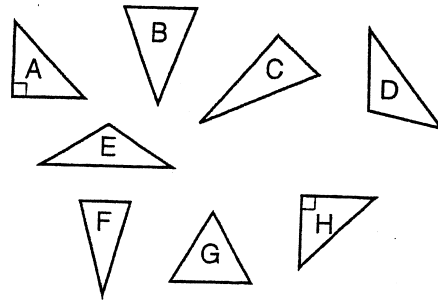


Name \_\_\_\_\_

# Triangles and Quadrilaterals

PS 8-4

Look closely at the triangles. Notice how they are similar and different. Use the triangles for 1–6. The same triangle may be used to answer more than one question.



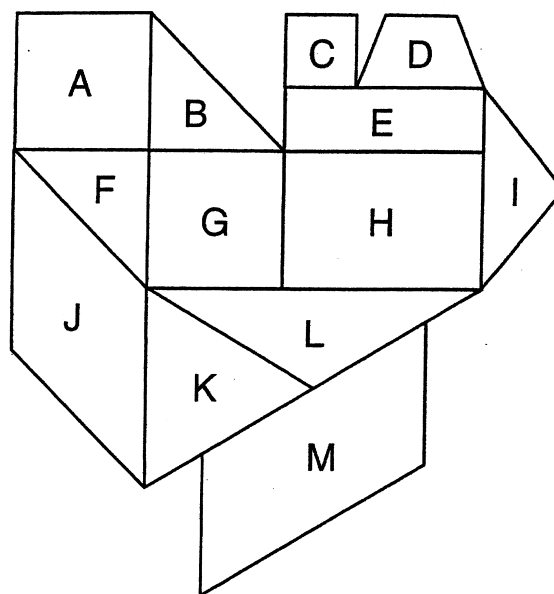
1. Which triangles are isosceles?  
\_\_\_\_\_
2. Which triangles are scalene?  
\_\_\_\_\_
3. Are any of the triangles equilateral? If so, which one or ones?  
\_\_\_\_\_
4. Which triangles are right?  
\_\_\_\_\_
5. Which triangles are acute?  
\_\_\_\_\_
6. Which triangles are obtuse?  
\_\_\_\_\_
7. **Writing in Math** How is a square similar to a rectangle?  
How is a square different from a rectangle? Would you say a rectangle is a special type of square? Or is a square a special type of rectangle? Explain.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_

# Doodles

**E 8-4**  
**VISUAL THINKING**

Darius made this doodle while talking on the phone. Name each shape Darius drew. Be as specific as possible.



- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_
- D. \_\_\_\_\_
- E. \_\_\_\_\_
- F. \_\_\_\_\_
- G. \_\_\_\_\_
- H. \_\_\_\_\_
- I. \_\_\_\_\_
- J. \_\_\_\_\_
- K. \_\_\_\_\_
- L. \_\_\_\_\_
- M. \_\_\_\_\_

Name – \_\_\_\_\_

Date – \_\_\_\_\_

## Perimeter

Perimeter is the sum of \_\_\_\_\_.

**Measure the perimeter of the following objects. Remember your units!**

1. Measure the perimeter of your **desk**. Perimeter = \_\_\_\_\_

2. Measure the perimeter of your **math textbook**. Perimeter = \_\_\_\_\_

**Measure the perimeter of at least 4 other things in the classroom. Remember your units!**

1. Perimeter = \_\_\_\_\_

5. Perimeter = \_\_\_\_\_

2. Perimeter = \_\_\_\_\_

6. Perimeter = \_\_\_\_\_

3. Perimeter = \_\_\_\_\_

7. Perimeter = \_\_\_\_\_

4. Perimeter = \_\_\_\_\_

8. Perimeter = \_\_\_\_\_

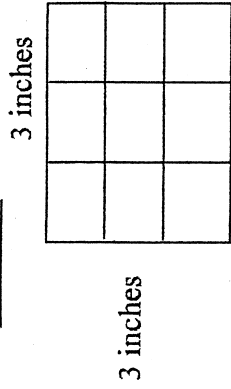
**Create a word problem using perimeter.**



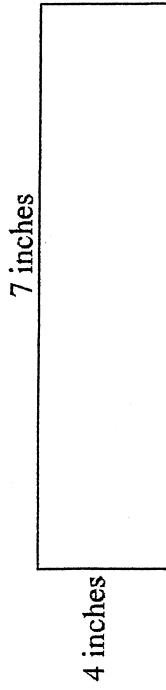
# Area

From the drawings below, find the area. Remember area is \_\_\_\_\_.

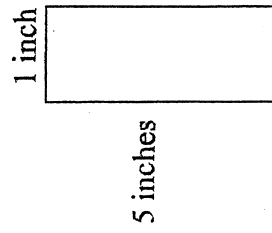
1. Area = \_\_\_\_\_



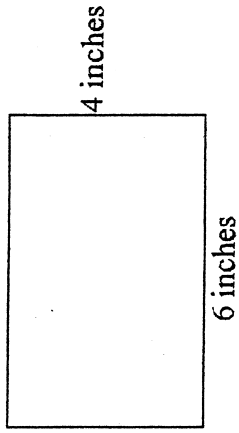
2. Area = \_\_\_\_\_



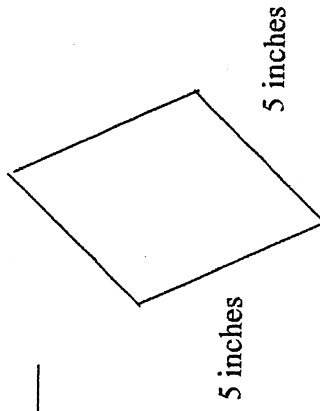
3. Area = \_\_\_\_\_



4. Area = \_\_\_\_\_



5. Area = \_\_\_\_\_



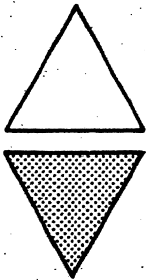
6. Create a word problem using area.

Name \_\_\_\_\_

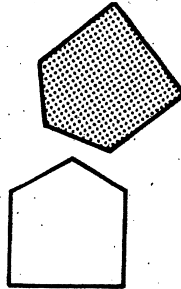
**SLIDES, FLIPS, AND TURNS**

The shaded figure shows how the figure was moved.  
Write **slide**, **flip**, or **turn**. Tell how the figure was moved.

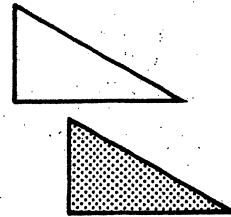
1.



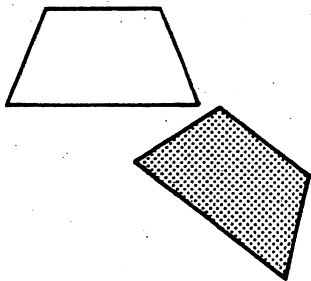
2.



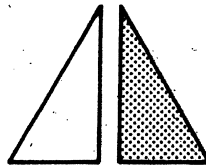
3.



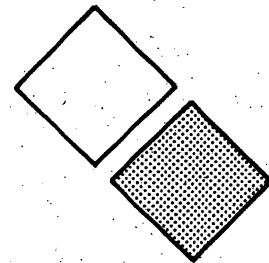
4.



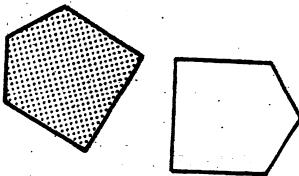
5.



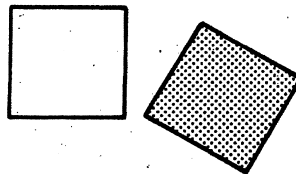
6.



7.



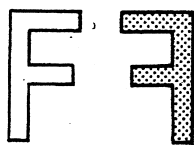
8.



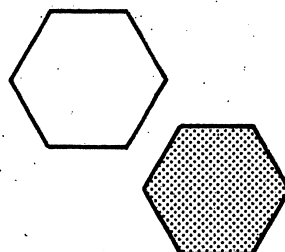
9.



10.



11.



12.

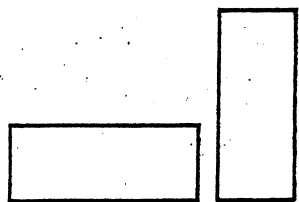


Name \_\_\_\_\_

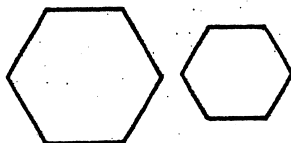
**CONGRUENCE**

Tell whether the two figures are congruent.

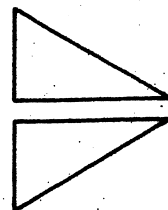
1.



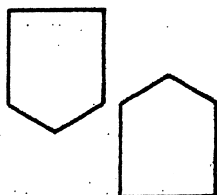
2.



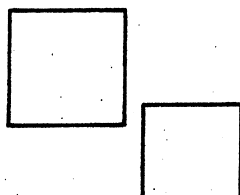
3.



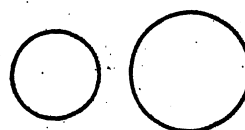
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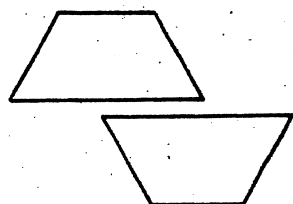
5.



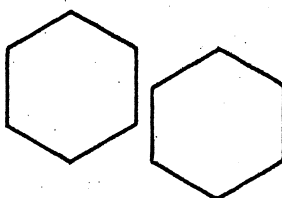
6.



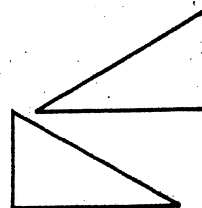
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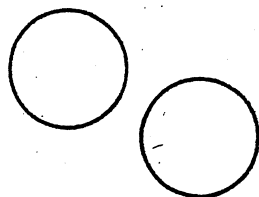
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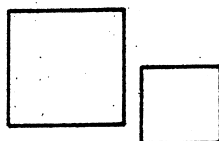
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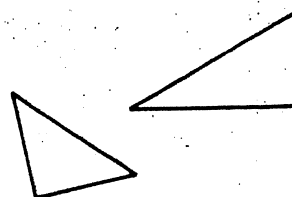
10.



11.



12.



Solve.

13. Donna bought an oval tablecloth to cover a table of the same shape. The tablecloth is bigger. Are the table and the tablecloth congruent?

14. All of the doors in Greg's house are the same shape. Are the doors congruent?

## Chapter 8A Reveiw

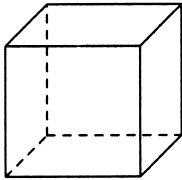
### Multiple Choice

*Identify the letter of the choice that best completes the statement or answers the question.*

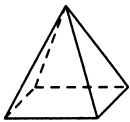
- \_\_\_\_\_ 1. Name the solid figure.



- a. cylinder  
b. rectangular prism  
c. cone  
d. triangular prism
- \_\_\_\_\_ 2. How many edges does a cube have?



- a. 6 edges      b. 8 edges      c. 12 edges      d. 14 edges
- \_\_\_\_\_ 3. How many faces does a square pyramid have?



- a. 4 faces      b. 5 faces      c. 6 faces      d. 10 faces

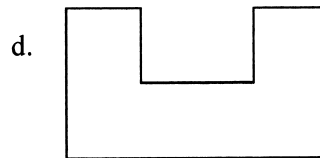
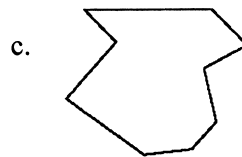
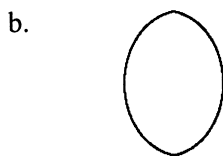
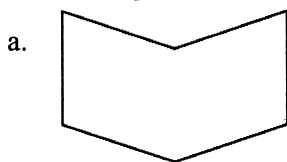
Name: \_\_\_\_\_

ID: A

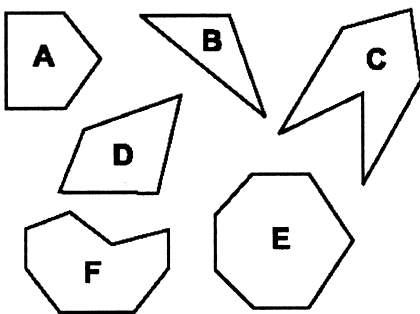
- \_\_\_\_\_ 4. Shamika is making a model. She drew the net below. If she cut it out and taped it together, which solid would she make?



- \_\_\_\_\_ 5. Which figure is NOT a polygon?
- a. triangular prism      c. cylinder  
b. rectangular prism    d. rectangular pyramid



- \_\_\_\_\_ 6. Which figure is an example of a hexagon?



- \_\_\_\_\_ 7. What is the name of a polygon with 8 sides?
- a. quadrilateral    b. hexagon    c. pentagon    d. octagon

Name: \_\_\_\_\_

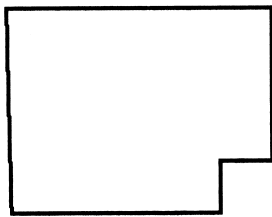
ID: A

\_\_\_\_ 8. What shape is the traffic sign?



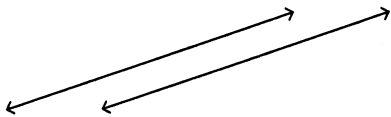
- a. octagon      b. hexagon      c. pentagon      d. triangle

\_\_\_\_ 9. The shape of Huron County, Ohio is shown below. What shape is it?



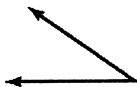
- a. hexagon      b. triangle      c. octagon      d. pentagon

\_\_\_\_ 10. What type of lines are shown?



- a. rays      c. intersecting  
b. perpendicular      d. parallel

\_\_\_\_ 11. What type of angle is shown?



- a. straight      b. right      c. obtuse      d. acute

\_\_\_\_ 12. What geometric figure is shown?



- a. ray
- b. point
- c. line
- d. line segment

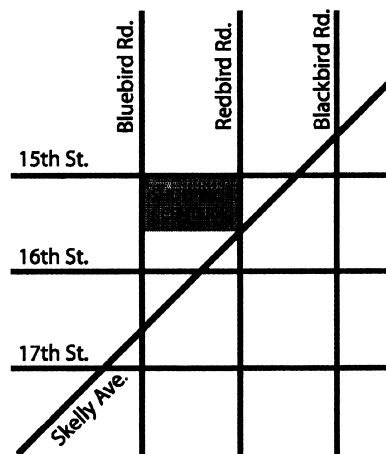
\_\_\_\_ 13. What type of angle is formed by the hands on the clock?



- a. obtuse
- b. right
- c. straight
- d. acute

\_\_\_\_ 14. Rosie is using the map below to get to the Shopping Center.

Which of these roads is parallel to Bluebird Rd.?



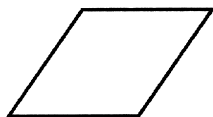
- a. 16th St.
- b. Blackbird Rd.
- c. 17th St.
- d. Skelly Ave.

\_\_\_\_ 15. Classify the triangle by its sides and then by its angles.



- a. isosceles and acute
- b. isosceles and right
- c. isosceles and obtuse
- d. scalene and acute

\_\_\_\_ 16. Classify the quadrilateral.

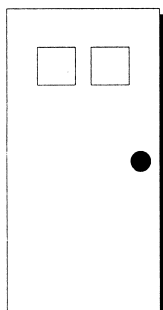


- a. square                      b. trapezoid                      c. rectangle                      d. rhombus

\_\_\_\_ 17. Which quadrilateral always has four right angles?

- a. rhombus                      c. trapezoid  
b. square                      d. parallelogram

\_\_\_\_ 18. What shape are the designs on the door?



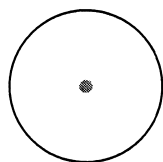
- a. trapezoids                      c. pentagons  
b. squares                      d. parallelograms

\_\_\_\_ 19. What shape has been used to form the tile pattern below?



- a. rectangles                      c. trapezoids  
b. parallelograms                      d. squares

\_\_\_\_ 20. Use a geometric term to describe what is shown in gray.



- a. chord                      b. diameter                      c. radius                      d. center

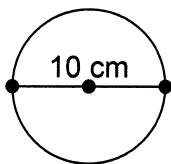
\_\_\_\_ 21. What word completes the sentence?

A \_\_\_\_?\_\_\_\_ is any line segment that connects the center to a point on the circle.

- a. radius                      b. circle                      c. chord                      d. diameter

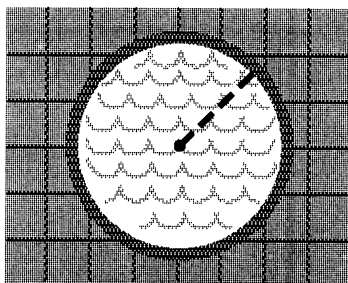


\_\_\_ 22. How long is the radius of the circle?



- a. 5 cm                      b. 10 cm                      c. 15 cm                      d. 20 cm

\_\_\_ 23. Melvin swam the length of the pool that is marked. What part of the circle did he swim?



- a. radius                                      c. chord  
b. diameter                                      d. circumference

\_\_\_ 24. Money has been used in the United States for many years. The United States Mint put its first coins, the copper cents, into circulation in March 1793.

Use the table below. What is the radius of a quarter?

#### COINS USED IN THE UNITED STATES

Coin	Approximate Distance Across
Penny	19 millimeters
Nickel	21 millimeters
Dime	18 millimeters
Quarter	24 millimeters
Half Dollar	30 millimeters
Dollar	26 millimeters

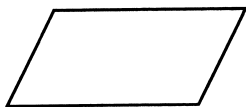
- a. 12 mm                      b. 18 mm                      c. 24 mm                      d. 48 mm

## Chapter 8B Review

### Multiple Choice

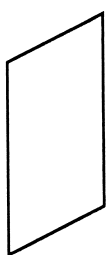
Identify the letter of the choice that best completes the statement or answers the question.

\_\_\_\_ 1.



Which figure is NOT congruent to the one above?

a.



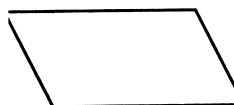
b.



c.

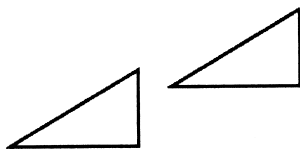


d.



\_\_\_\_ 2. Which pair of figures are congruent?

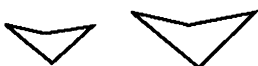
a.



c.



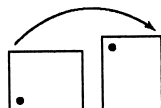
b.



d.



\_\_\_\_ 3. How are the figures related?



a. turn

c. slide

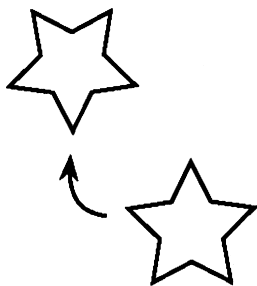
b. reflection

d. flip

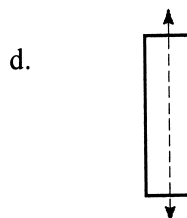
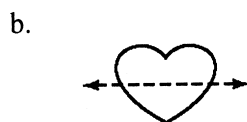
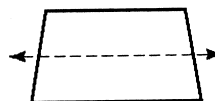
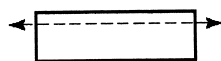
Name: \_\_\_\_\_

ID: A

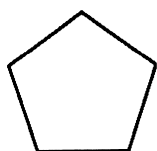
- \_\_\_\_\_ 4. A five-pointed star is used in many different national flags. The United States flag has 50 five-pointed stars. There is one star for each of the fifty states. How has the star below been moved?



- a. flip  
b. slide  
c. reflection  
d. turn
- \_\_\_\_\_ 5. Which dotted line is a line of symmetry?



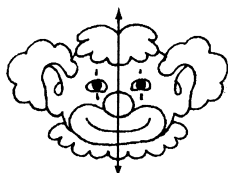
- \_\_\_\_\_ 6. How many lines of symmetry does the figure have?



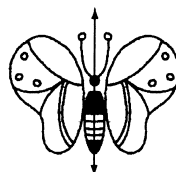
- a. 3  
b. 5  
c. 1  
d. 4
- \_\_\_\_\_ 7. How many lines of symmetry does a right isosceles triangle have?
- a. 3  
b. 1  
c. 0  
d. 2

- \_\_\_\_\_ 8. The art teacher gave each student a sheet of paper with half a drawing on it. Each student's assignment was to finish the drawing by making the right side of the drawing symmetric to the left side. Which drawing is NOT symmetric?

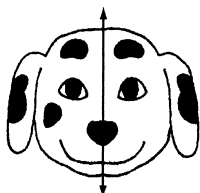
a.



c.






b.



d.



- \_\_\_\_\_ 9. Maps often use symbols to represent locations. A list of possible symbols and their meanings are shown below.

Symbol	Meaning
H	Hospital
	Airport
	Roadside Park
	State Capital

How many lines of symmetry does the symbol for a roadside park have?

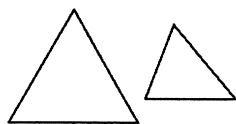
- a. 2  
b. 0  
c. 3  
d. 1

Name: \_\_\_\_\_

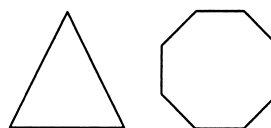
ID: A

\_\_\_\_ 10. Which pair appear to be similar?

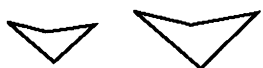
a.



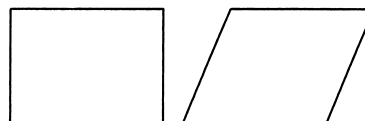
c.



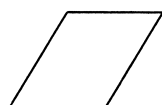
b.



d.



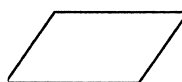
\_\_\_\_ 11. Which appears to be similar to the figure below?



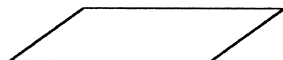
a.



c.



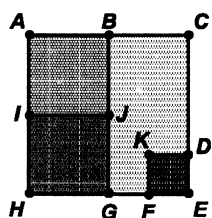
b.



d.



\_\_\_\_ 12. Quo used squares to draw the following design. Name a square that appears to be similar but NOT congruent to  $ABJI$ .



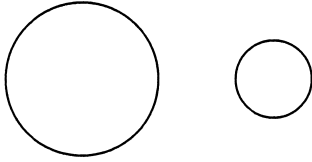
a. square  $ABGH$

b. square  $BCEG$

c. square  $ACEH$

d. square  $IJGH$

- \_\_\_\_\_ 13. During art class, Mrs. Moore gave each student patterns of the two shapes shown below. The students' assignment was to make a picture using only the two shapes. How are the two shapes related?



- a. The two are similar, but NOT congruent.
  - b. The two are similar and congruent.
  - c. The two are NOT similar.
  - d. The two are congruent, but NOT similar.
- \_\_\_\_\_ 14. Which statement does NOT describe the figures?



- a. Both angles are formed by intersecting lines.
- b. One figure is an an acute angle.
- c. One figure is an an obtuse angle.
- d. Both figures are angles.

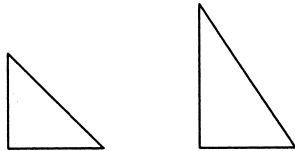
\_\_\_\_\_ 15. Which statement does NOT describe the tables?

<b>Number of Dollars</b>	2	3	4	5
<b>Number of Pennies</b>	200	300	400	500

<b>Number of Dollars</b>	2	3	4	5
<b>Number of Quarters</b>	8	12	16	20

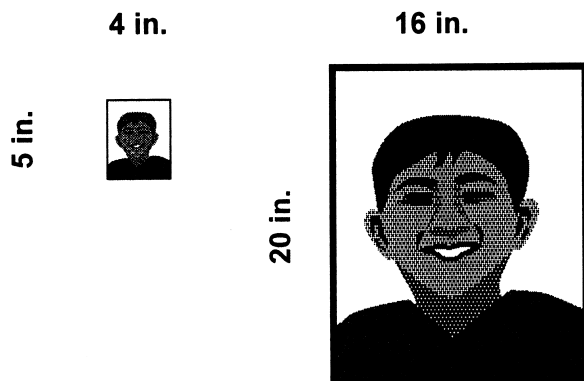
- a. The top table's rule is multiply by 100.
- b. The bottom table's rule is multiply by 4.
- c. As the number of dollars increases, the number of pennies and the number of quarters increase.
- d. The number of quarters is always greater than the number of pennies for each dollar amount.

\_\_\_\_\_ 16. Which statement does NOT describe the figures?

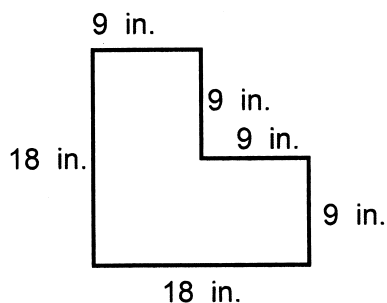


- a. One figure is an isosceles triangle and the other is a scalene triangle.
- b. Both figures are right triangles.
- c. The figures are similar.
- d. Each figure has 3 sides.

- \_\_\_\_\_ 17. Peter wants to give his grandmother a school picture. The two pictures he has to choose from are shown below. Which statement does NOT describe the two pictures?



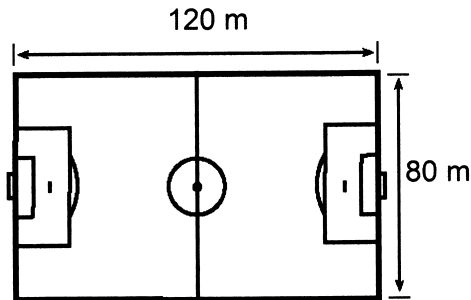
- a. The width of the second picture is 4 times the width of the first.  
 b. The pictures are congruent.  
 c. Both pictures are rectangles.  
 d. The pictures are similar.
- \_\_\_\_\_ 18. What is the perimeter of this figure?



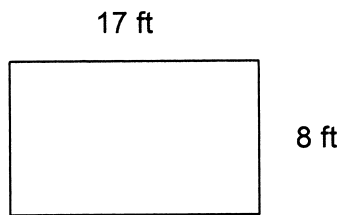
- a. 54 in.                      b. 63 in.                      c. 72 in.                      d. 81 in.
- \_\_\_\_\_ 19. The length of one side of a rhombus is 14 centimeters. What is the perimeter? (Hint:  $P = 4s$ .)
- a. 196 centimeters                      c. 42 centimeters  
 b. 56 centimeters                      d. 28 centimeters
- \_\_\_\_\_ 20. The perimeter of a parallelogram is 22 centimeters. One short side is 5 centimeters long. What is the length of one long side of the parallelogram?
- a. 5 centimeters                      c. 27 centimeters  
 b. 6 centimeters                      d. 54 centimeters
- \_\_\_\_\_ 21. Mrs. Chung is putting up a wallpaper border around her daughter's bedroom. How many feet of border does she need if the room is the shape of a rectangle that is 15-foot by 16-foot? (Hint:  $P = 2l + 2w$ )
- a. 31 feet                      b. 60 feet                      c. 62 feet                      d. 64 feet



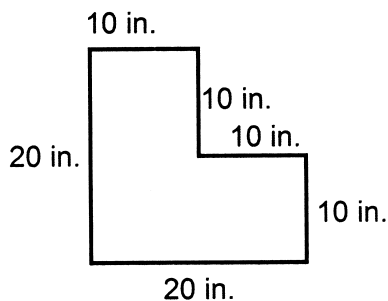
- \_\_\_\_\_ 22. Soccer requires players to run for most of the game. In order to improve each players ability to run for long periods of time, Coach Namavar has his players run laps around the soccer field. What is the perimeter of the soccer field shown below? (Hint:  $P = 2l + 2w$ )



- a. 200 m      b. 280 m      c. 400 m      d. 410 m
- \_\_\_\_\_ 23. What is the area of the figure? (Hint:  $A = \ell w$ )

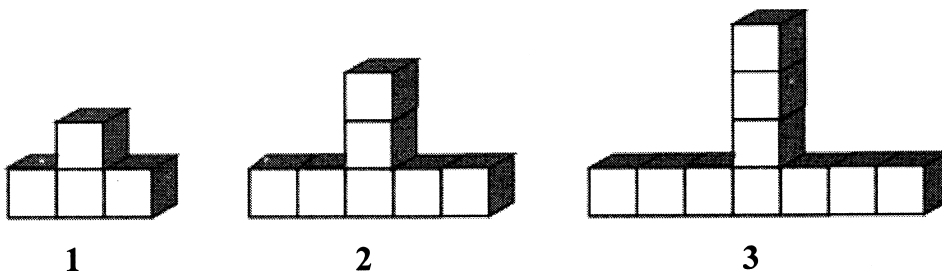


- a. 25 square feet      c. 128 square feet  
b. 50 square feet      d. 136 square feet
- \_\_\_\_\_ 24. What is the area of the figure?



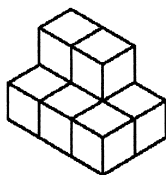
- a. 80 square inches      c. 300 square inches  
b. 200 square inches      d. 400 square inches
- \_\_\_\_\_ 25. The perimeter of a square is 36 inches. What is the area of the square? (Hint:  $P = 4s$  and  $A = s \times s$ )
- a. 36 square inches      c. 82 square inches  
b. 81 square inches      d. 1296 square inches

- \_\_\_\_\_ 26. Mrs. Lazlo built a playhouse for her children. The playhouse floor is in the shape of a rectangle with the measurements listed below. What is the area of the playhouse floor? (Hint:  $A = \ell w$ )  
 $w = 8$  feet  
 $\ell = 10$  feet
- a. 18 square feet                      c. 80 square feet  
b. 36 square feet                      d. 88 square feet
- \_\_\_\_\_ 27. Billboards are one way for businesses to advertise and make money. What is the area of a 5 yard by 7 yard billboard that is in the shape of a rectangle? (Hint:  $A = \ell w$ )
- a. 70 square yards                      c. 35 square yards  
b. 24 square yards                      d. 57 square yards
- \_\_\_\_\_ 28. Sidney has 30 black ceramic tiles. He wants to make a rectangular shaped design with the black tiles, then make a yellow ceramic tile border around it. How should he can arrange the black tiles to make the longest yellow border?
- a. 5 tiles by 6 tiles                      c. 2 tiles by 15 tiles  
b. 1 tile by 30 tiles                      d. 3 tiles by 10 tiles
- \_\_\_\_\_ 29. Mr. Vo planted tulip bulbs in his garden. For every 4 red bulbs he planted, he planted 3 yellow bulbs. How many yellow bulbs did he plant if he planted 16 red bulbs?
- a. 7 yellow bulbs                      c. 12 yellow bulbs  
b. 8 yellow bulbs                      d. 20 yellow bulbs
- \_\_\_\_\_ 30. How many cubes are needed to build the 9th figure, if the pattern continues?

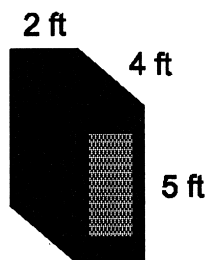


- a. 26 cubes                      c. 28 cubes  
b. 27 cubes                      d. 29 cubes
- \_\_\_\_\_ 31. Mrs. Choike has 34 feet of edging to enclose a rectangular garden. What length and width would make the garden with the greatest area?
- a. 7 feet wide and 10 feet long  
b. 6 feet wide and 11 feet long  
c. 8 feet wide and 9 feet long  
d. 5 feet wide and 12 feet long

- \_\_\_\_\_ 32. A panther needs 108 square miles of habitat to live and reproduce. What length and width gives this area with the shortest perimeter?
- a. 6 miles wide and 18 miles long
  - b. 3 miles wide and 36 miles long
  - c. 9 miles wide and 12 miles long
  - d. 4 miles wide and 27 miles long
- \_\_\_\_\_ 33. What is the volume of this figure?



- a. 6 cubic units
  - b. 7 cubic units
  - c. 8 cubic units
  - d. 14 cubic units
- \_\_\_\_\_ 34. What is the volume of this crate? (Hint:  $V = \ell wh$ )

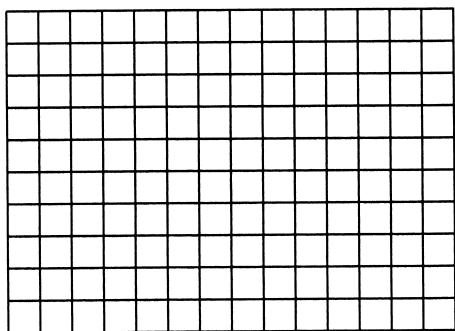
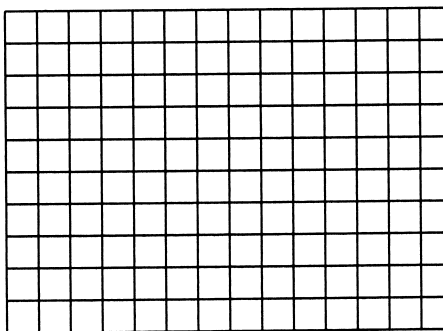


- a. 11 cubic feet
  - b. 20 cubic feet
  - c. 20 square feet
  - d. 40 cubic feet
- \_\_\_\_\_ 35. The volume of a box is 160 cubic meters. Its length is 10 meters, and its height is 8 meters. What is the width of the box? (Hint:  $V = \ell wh$ )
- a. 2 meters
  - b. 80 meters
  - c. 1,600 meters
  - d. 12,800 meters
- \_\_\_\_\_ 36. Tony's toy box has a width of 2 feet, a height of 3 feet, and a length of 3 feet. What is the volume of the toy box? (Hint:  $V = \ell wh$ )
- a. 6 cubic feet
  - b. 8 cubic feet
  - c. 18 cubic feet
  - d. 18 square feet

- \_\_\_\_\_ 37. The Art Club used plaster of Paris to make impressions of their hands. The students put plaster of Paris into a frame with a length of 10 inches, a width of 10 inches, and a height of 3 inches. They filled the entire frame, then pressed their hand in the plaster of Paris to make the impression. How much plaster of Paris did it take to fill the frame? (Hint:  $V = \ell wh$ )
- a. 23 cubic inches                      c. 300 cubic inches  
b. 100 cubic inches                    d. 300 square inches

**Other**

38. On the left grid below, draw two different-sized rectangles that are similar. On the right grid, draw two rectangles that are NOT similar.

**Similar****NOT similar**

39. On the lines below, write two sentences describing how the solids are alike.

